

### **REMARKS**

Reconsideration of the above referenced application in view of the enclosed remarks is requested. Claims 7-12, 17-21 and 27-32 remain pending in the application.

### **ARGUMENT**

The Specification is objected to under 35 USC § 112, 37 CFR § 1.71(a) – (c) for allegedly failing to disclose the limitations of claims 7-12, 17-21 and 27-32. Likewise, claims 7-12, 17-21 and 27-32 are rejected under 35 USC § 112, first paragraph.

#### **§ 112, First Paragraph**

With respect to the § 112, first paragraph rejection of all the claims and the associated objections to the specification, applicant respectfully submits that applicant's disclosure is adequate to support these claims under 35 USC § 112, first paragraph.

The enablement requirement of 35 USC § 112, first paragraph requires only that the applicant disclose the invention sufficiently to enable one of skill in the art to make and use the invention. It is not necessary that patent drawings illustrate every embodiment of the invention, particularly where specification is adequate; in determining disclosure, resort must be had to specification as well as drawings; the entire instrument must be construed and not merely part of it. See, e.g., Anthony Co. v Perfection Steel Body Co. (1963, CA6 Ohio) 315 F2d 138, at 140:

It was not necessary that the patent drawings illustrate every embodiment of the invention, particularly where the specifications are adequate as here. Chicago Pneumatic Tool Co. v. Hughes Tool Co., 97 F.2d 945 (C.A.10). In determining the disclosure, resort must be had to the specifications as well as the drawings. Minerals Separation North American Corp. v. Magma Copper Co., 280 U.S. 400, 50 S.Ct. 185, 74 L.Ed. 511; Baldwin Rubber Co. v. Paine & Williams Co., 99 F.2d 1 (C.A.6). The entire instrument must be construed and not merely part of it.

## 69 C.J.S. Patents, 190a.

The enablement requirement does not require that applicant re-describe every aspect or every possible embodiment with respect to each and every figure or each and every species. One of skill in the art, considering the disclosure as a whole, can appreciate how the various considerations of one embodiment is applicable to other embodiments.

The Office Action contends that the elected species does not show the limitations claimed.

Applicant's concerns directed toward the specification objections and 35 U.S.C. 112, first paragraph rejections are not found persuasive. The originally filed specification fails to disclose **the elected species**, as illustrated in figure 4, having the limitations of claims 7-12, 1-21 and 27-32. More specifically, the originally filed specification fails to disclose the elected species having a third portion ... physically coupled to the second heat dissipating mechanism as claimed in claim 7; a first heat dissipation mechanism physically coupled to a third portion of the ... heatpipe as claimed in claim 17; a metallic plate physically coupled to a third portion of the heat pipe as claimed in claim 27; the first thermal conductivity at least twice (claim 8) or is approximately four times (claim 9) the second thermal conductivity; the first heat dissipation mechanism is an active heat dissipation mechanism as claimed in claim 10 and the heat pipe is a single tubular member which is uniformly tubular except for the limited conductivity portions as claimed in claims 12 and 20.

Office Action, p. 6 (emphasis in original). However, a detailed analysis of applicant's disclosure shows that applicant makes it very clear that the various embodiments of the limited conductivity portion (e.g., the block or the variable conductivity heat pipe) may be substituted for each other and the like considerations apply regardless of which is used. The portion shown in Figure 4 illustrates an alternative "limited conductivity portion" which may be substituted for the "limited conductivity portion" shown in Figures 1. Applicant is **not** required to show every aspect of an invention in a single figure. See 37 CFR § 1.84(h)(5), which provides for figures illustrating modified forms, 37 CFR § 1.84(h)(1) which provides for exploded views, 37 CFR § 1.84(h)(2) which provides for partial views, and 37 CFR § 1.84(h)(3) which provides for sectional views.

To the extent the Examiner would like a single figure such as figure 1 to be added to the application to include the alternative limited conductivity portion of figure 4, applicant will gladly add such figure. Clearly, applicant's specification supports the entire combination. Applicant starts applicant's detailed description indicating that the limited thermal conductivity portion is a generic element, stating:

Furthermore, one embodiment utilizes a limited thermal conductivity portion in a thermal path and may therefore provide separate thermal paths which have thermal conductivities proportional to the heat dissipation capacity of the different heat dissipation devices connected thereto. Such varying thermal conductance may allow a keyboard to maintain an acceptable temperature by limiting the amount of heat transferred to a heat dissipation plate beneath the keyboard.

Applicant's disclosure, p. 8, lns. 19-25. Applicant explains that the grooved block of Figure 1 is one example of such a limited conductivity portion.

Thus, the thermal conductivity of this path may be set by adjusting the thermal conductivity of the limited conductivity portion (i.e., in this embodiment the grooved block) of the path.

Applicant's disclosure, p. 12, lns. 1-4. Then, applicant explains that figure 4 is an alternative embodiment with a different limited conductivity portion.

In this embodiment, a throttling portion 410 of the heat pipe 400 forms the limited conductivity portion which allows a smaller amount of heat to be transferred the passive heat dissipation mechanism, the keyboard plate 440.

Applicant's disclosure, p. 14, lns. 10-13. Applicant further describes the use of the limited conductivity portion with respect to figure 4 and indicates that **this embodiment** of the limited conductivity portion may be coupled to an active heat dissipation element and a passive heat dissipation element as well as an electronic component.

Thus the limited conductivity portion may include a throttling portion and another high thermal conductivity portion or may include an entire portion having lower thermal conductivity. In any case, the **limited conductivity portion** may be used to limit the flow of heat to the keyboard plate 440 to apportion heat from the **processor die 205** to the **active heat dissipation mechanism** and the keyboard plate 440 such the heat keyboard remains at an acceptable temperature.

Applicant's disclosure, p. 14, ln. 26 – p. 15, ln. 5 (emphasis added). Moreover, this section of applicant's specification clearly indicates the substitutability across the figures by referring to the processor die 205 as referred to in embodiments of Figures 2 - 4.

With respect to the thermal conductivity ratios of claims 8-9, applicant notes applicant's specification at page 15, line 22, which states "[f]or example,  $\theta_1$  may be at least twice  $\theta_2$ ." Additionally, page 13, lines 3-6 detail an embodiment in which one thermal path has approximately four times the thermal conductivity of the other path. Furthermore, applicant notes that claims 8 and 10 are substantially similar with respect to the thermal conductivity recited when originally filed. One of skill in the art can clearly recognize that these ratios could be equally applicable to any embodiment of the limited conductivity portion (e.g., a block or a variable thermal conductivity heat pipe) because they are described as being set in proportion to the heat dissipation capacity of the respective heat dissipation mechanism. The same considerations might apply to either a block or a variable thermal conductivity heat pipe.

With respect to the active heat dissipation mechanism of claim 10, applicant again notes that the above-referenced paragraph at p. 14, ln. 26 – p. 15, ln. 5 explicitly describes the inclusion of an active heat dissipation mechanism in the embodiment of Figure 4. Activation as recited in claim 10 was also supported by original claim 10, the original specification, and is also equally applicable to any of the embodiments, as would be readily recognized by one of skill in the art.

With respect to the third portion physically coupled to the second heat dissipating mechanism of claim 7, applicant notes that, for example, the optional heat transfer block 430 could be a third portion as described in the embodiment of Figure 4.

With respect to a first heat dissipation mechanism physically coupled to the first portion of the heat pipe of claim 17, applicant again notes that the above-referenced paragraph at p. 14, ln. 26 – p. 15, ln. 5 explicitly describes the inclusion of an active heat dissipation mechanism in the embodiment of Figure 4.

With respect to a metallic plate physically coupled to a third portion of the heat pipe of claim 27, applicant notes that, for example, the optional heat transfer block may be physically coupled to the keyboard plate 440 in the embodiment of Figure 4. See also Specification, p. 12, ln. 31 – p. 13, ln. 6.


With respect to the heat pipe is a single sealed tubular member which is uniformly tubular except for the limited conductivity portions of claims 12 and 20, applicants would like to respectfully point out that these elements are not found in any of the pending claims.

Applicant respectfully submits that applicant's disclosure, **as a whole**, provides adequate support under 35 USC § 112, first paragraph to enable one of skill in the art to make and use what is claimed, including all limitations, for claims 8-10, 12, 20 and 32. To the extent that the Office Action contends that 35 USC § 112, first paragraph requires more, such as re-describing every aspect of the disclosure with reference to figure 4, applicant respectfully disagrees, and it is clear that the law does not require such. It is not necessary that patent drawings illustrate every embodiment of the invention, particularly where specification is adequate; in determining disclosure, resort must be had to specification as well as drawings; the entire instrument must be construed and not merely part of it.

To the extent the Office Action's rejection is intended to allege deficiency under the description requirement of § 112, first paragraph, applicant submits that applicant was clearly in possession of the invention at the time of filing. The description requirement requires that the applicant's description and/or claims contain statements that are as broad as applicant's current claims. See, e.g., In re Di Leone, 58 C.C.P.A. 925, 926 (CCPA 1971); Chisum on Patents § 7.04. As originally filed, applicant's original claims also clearly evidence that applicant could have used either type of limited conductivity portion in conjunction with the various other features claimed. Note that original claim 1 allowed any type of limited conductivity portion, whereas original claim 3 recite a head conductive block and claim 7 recited a variable thermal conductivity heat pipe. Therefore, applicant respectfully submits that applicant clearly meets both the enablement and description requirements of 35 USC § 112. Applicant's originally filed claims and/or specification clearly contain statements that are as broad as applicant's current claims.

Other than the description and enablement requirements, § 112, first paragraph does not impose any further requirements with respect to individual species and/or figures of the patent application.

Claims 7-8 and 10 stand rejected under 35 USC § 102(e) as being anticipated by US Patent 5,159,972 (hereafter Gunnerson). Claims 9, 11, 21, 28 and 30 stand rejected under 35 USC § 103 as being obvious over Gunnerson in view of US Patent 5,917,699 (hereafter Hung) and US Patent 5,661,637 (hereafter Villaume). Claims 17-19, 27 and 31 stand rejected under 35 USC § 103 as being obvious over Gunnerson in view of Hung. Claims 12, 20, 29 and 32 stand rejected under 35 USC § 103 as being obvious over Gunnerson in view of Hung and further in view of US Patent 3,604,503 (hereafter Feldman). These rejections are respectfully traversed, and claims 7-12, 17-21 and 27-32 are believed allowable based on the foregoing and following discussion.



Applicants independent claims 7, 17 and 27 all recite a physical coupling of elements. A physical coupling distinguishes the alleged air coupling provided in Gunnerson, but would allow indirect or direct physical coupling. For the reasons previously argued in applicant's prior, applicant respectfully submits that independent claims 7, 17 and 27 and its dependent claims are allowable.

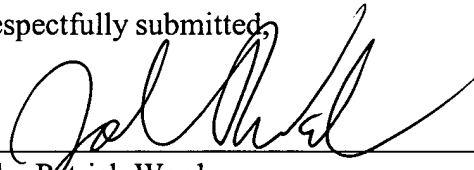
**CONCLUSION**

In view of the foregoing, claims 7-12, 17-21 and 27-32 are all in condition for allowance. If the Examiner has any questions, the Examiner is invited to contact Ami Patel Shah, patent attorney for Applicant, at (703) 633-6868. Early issuance of Notice of Allowance is respectfully requested.

If the Examiner continues to have questions regarding 35 U.S.C. §112, first paragraph, Applicant requests an interview to help answers any outstanding questions the Examiner may have to expedite this application to allowance.

If there are any additional fees due, please charge them to our Deposit Account No. 02-2666.

Respectfully submitted,



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